

# **COVID-19 impacts on household affordability of food and nutrition security: An analysis of South Africa in 2020**

by

**Bianca Botha**

Thesis presented in partial fulfilment of the requirements for the degree of  
**Master of Agricultural Sciences**



at

**Stellenbosch University**

Food and Nutrition Security, Faculty of Agricultural Sciences

Supervisor: Professor Scott Drimie

March 2021

# Declaration

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

Date: 28 February 2021

# Abstract

The COVID-19 pandemic disrupted local food systems in South Africa, amplifying its many challenges. Millions of people were thrust into hunger, deprivation and unemployment reached an unprecedented high of 30.8%. The purpose of the study was to investigate the effects of the pandemic on core food prices and the household core food basket. Statistics South Africa data and the Pietermaritzburg Economic Justice & Dignity Group prices were tracked and contrasted over a period of time to assess the direct effect the COVID-19 pandemic had on the affordability of food and nutrition security. It was revealed that the cost of food and nutrition escalated during the months of lockdown which reached beyond the affordability thresholds of the unemployed and for families living on low incomes.

# Opsomming

Die COVID 19 pandemie het plaaslike voedselvoorsieningstelsels in Suid Afrika ontwrig deur die reeds baie uitdagings verder te versterk. Miljoene mense is in hongersnood gedompel, verliese is gelyk en die werkloosheidsyfer het die ongehoorde hoogte van 30.8% bereik. Die doel van hierdie studie is om ondersoek in te stel na watter uitwerking die pandemie gehad het op lewensbelangrike voedselpryse en huishoudings. Statistics South Africa se data en die Pietermaritzburg Economic Justice & Dignity Group se pryse is nagegaan en vergelyk oor 'n periode van tyd om vas te stel wat die direkte uitwerking was wat die COVID-19 pandemie op die bekostigbaarheid van voedsel en sekuriteit van voeding gehad het. Daar word bevind dat die koste van voedsel en voeding toeneem het tydens die maande van inperking dat werklose mense en families met lae lewensinkomstes dit nie meer kan bekostig nie.

# Acknowledgements

I wish to express my sincere gratitude and appreciation to my supervisor Professor Scott Drimie and Julia Harper from the department at Stellenbosch University for their guidance and support. I would also like to thank my mother, father and two sisters for inspiring me to embark on furthering my studies and supporting me through the process.

# Table of Contents

Declaration .....	ii
Abstract .....	iii
Opsomming .....	iii
Acknowledgements .....	iv
<b>1. Chapter 1: Introduction .....</b>	<b>1</b>
<b>2. Chapter 2: Investigation .....</b>	<b>3</b>
2.1 Aim of the investigation .....	3
<b>3. Chapter 3: Literature Review .....</b>	<b>5</b>
3.1 Food and nutrition status of South Africans prior to lockdown .....	6
3.2 Hunger and poverty conditions prior to lockdown .....	9
3.3 The effects of the pandemic on food access .....	11
3.4 Purchasing patterns during lockdowns .....	13
3.5 Unemployment rate changes during COVID-19 pandemic .....	15
3.6 The effects of the pandemic on the labour market .....	17
<b>4. Chapter 4: Methodology and Materials .....</b>	<b>20</b>
<b>5. Chapter 5: Results and Discussion .....</b>	<b>24</b>
5.1 The climbing cost of food and nutrition .....	24
5.2 Allocations of household income to secure food .....	28
5.3 Linking income to health and food security .....	30
<b>6. Chapter 6: Conclusion .....</b>	<b>32</b>
<b>7. References .....</b>	<b>34</b>

# 1. Chapter 1: Introduction

Food insecurity in South Africa is high and persistent, affecting approximately 25% of individuals and 10% of households (Statistics South Africa, 2019; USAID, 2018). There is a high prevalence of households with no access to adequate food whilst South Africa is mostly perceived to be food secure in the view of producing sufficient staple food or from the angle of importing sufficient and nutritional food for the population (Food and Agriculture Organization, 2020b). Food security is said to exist, “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (World Food Summit, 1996). The right to food is enshrined in the South African Constitution (section 27), allowing food security to exist for all citizens and within all households. However, the Pietermaritzburg Economic Justice & Dignity Groups National Affordability Index report from August 2019 showed that 25.2% of the population live below the Food Poverty Line (FPL), living on less than R561 a month, which translates to insufficient funds to afford enough food for the minimum required daily energy intake (Pietermaritzburg Economic Justice & Dignity Group, 2020).

Food security assessments and the identification of the causes of food insecurity are instrumental in the reduction of food insecurity. It is known that the pillars of food security are food availability, access to food, utilization, and stability (USAID, 2018) however there are many country relevant dimensions that need to be considered. A large element of food insecurity in South Africa is malnutrition, and undernutrition in particular. Chronic malnutrition (stunting) has remained above 25% since the beginning of the democratic era (World Health Organization, 2016). Low birth weight of infants and stunting prevalence for children under the age of 5 is exceptionally high in South Africa due to undernourishment experienced in the early life stages in the womb and poor child nutrition in the early formative years (UNICEF-WHO, 2019). Food access in the form of affordability for the low-income earners and unemployed persons living in South Africa do not secure nutrition at adequate stable levels, their low incomes only afford low-cost staple foods such as maize meal porridge, samp, bread,

sugar, soya mince and tinned fish (Schönfeldt et al., 2013a) which often do not meet the food-based dietary guidelines on a household nutrition intake level.

With a high prevalence of poverty, inequalities and poor distribution of income; seen by the Gini coefficient of 0.68 (Statistics South Africa, 2017b), the unaffordability of food and nutrition is experienced by millions of South African citizens. Restricted family budgets do not enable a variety of foods to be consumed which results in a monotonous diet with little range in micronutrients and further nutrient deficits. High food prices compounded by spikes in inflation restrict food preferences for consumers, often resulting in poor nutrition choices. This diet lifestyle leads to poor health and development which further drives food insecurity. With population growth, inflation and the more recent rise in unemployment, everyday healthy food choices are limited for an expanding large portion of South Africans (Schönfeldt et al., 2013b).

These current widespread conditions have been exacerbated by the COVID-19 pandemic's impact on South Africa. The COVID-19 pandemic is the ongoing spread of the coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Due to the widespread and fast infection rate of COVID-19 the President of South Africa, Cyril Ramaphosa declared a national state of disaster on the 15<sup>th</sup> of March as declared in terms of the National Disaster Act, 2002 (Act No. 57 of 2002). On the 23<sup>rd</sup> March 2020 Cyril Ramaphosa, announced a national lockdown for 21 days to contain the spread of the disease. Lockdown levels were instituted post the initial 21-day lockdown categorised by five levels which pertained to various restrictions to flatten the curve of infections. Although there was a second wave of infection that hit South Africa in December 2020, this study however focuses on the first wave. Several extraordinary measures to combat the severe public health emergency were initiated by the government in the initial hard lockdown levels which limited general movement as public transport, railway, air services and social activity were prohibited and shut down. Persons performing select essential services were permitted to leave home isolation as well as persons obtaining an essential good, collecting a social grant, seeking emergency, life-saving, or requiring chronic medical attention. Informal food markets were thus closed down affecting hundreds of thousands of citizens' access to food, as well as vendors access to income.

The lockdown measures put in place to reduce the spread of infection were, however, largely disruptive to food systems, economic growth, employment, household affordability and food accessibility when viewed through a food security lens. A preliminary assessment by the Food and Agricultural Organization (FAO) in 2020 suggested that the pandemic could add about 83 to 132 million people globally to the total number of undernourished in the world.

In essence, the underlying vulnerability to food insecurity has been exposed and amplified by the COVID-19 pandemic, revealing the pre-existing inequalities to access and affordability for food and nutrition. The COVID-19 pandemic has confronted the food system and re-enforced the importance of the informal food system for low-income earners, as well as smallholder agriculture farms and markets as the main access points for food security. This paper was written amidst the pandemic and data from March to September 2020 has been analysed. The successive waves of the COVID-19 virus could still be experienced for South Africans and the results and conclusions of our nutrition security are in flux as the virus continues to impact the country. The burden placed on the unemployed, low-income earners and food-insecure households is significant and potentially damaging for long term food security.

## 2. Chapter 2: Investigation

### 2.1 Aim of the investigation

This study aims to investigate the affordability and capability for low-income earners and their families to achieve food and nutrition security during the months of initial lockdown. The study uses an analytical framework that enables the dimensions of food security, in particular food access and utilisation to be analysed during the first year of the COVID-19 pandemic in South Africa. As food access in South Africa is significantly affected by affordability and prices, these issues are particularly emphasised. Furthermore, it aims to reveal the cost of a typical household food basket for low-income earners during the initial months of the COVID-19 pandemic in South Africa, March to September 2020, by tracking food items that would typically be in monthly



food baskets for low-income earners. The specific focus is on core food items that a large population group would be familiar with.

Statistics South Africa (Stats SA) and the Pietermaritzburg Economic Justice & Dignity Group (PMBEJD) released food price data that can provide data to determine the average household basket cost. Stats SA is the South African national statistical service that releases timely, accurate and official statistics, with the aim to advance economic growth, development, and democracy. The PMBEJD, founded in 2018, undertakes research and produces reports with a strong focus on communities, economic justice struggles and policy change. The PMBEJD journal reports on what core food items are for low-income earners based on habitual and essential consumer purchases made by their selected sample group. Low-income earners were classified and categorized based on the household income earnings at the National Minimum Wage (R20.76 per hour) or income received from social grants. The products that were selected for the core food basket includes the foods and the volumes of these foods which women living in a family of seven members (an average low-income household size) typically try and secure each month. The household food basket is not nutritionally complete, but a true representation of a basket of food items that women try and secure for their families given affordability constraints.

The novelty of the study is using multiple data sets and recent data to reveal the affordability status of low-income earners given the current pandemic. Due to the current effects of the pandemic in motion, there is an importance to understand the immediate effect of the pandemic to plan future nutritional policies to assist those most affected.

The study whilst focussing on the affordability of food and nutrition will highlight the allocation of funds available for food for the household of low-income earners, evaluated alongside factors such as school closures, spiking unemployment rates, salary pay cuts and other normal flows to obtain nutrition which were closed.

The specific objectives were to:

- examine the prices of food items to consumers over the period of March to September 2020 and
- to reveal the effects of the COVID-19 pandemic on prices of food items and therefore the household core food basket
- to investigate the affordability of a core food basket for low income earning households during the months of March through to September 2020

A literature review was undertaken to contextualise and reveal the state of food and nutrition security prior to the COVID-19 pandemic and thereafter the effects of the pandemic on food pricing, purchasing patterns, available household income due to pay cuts and employment rate changes and how these effects linked to food security.

The methods and materials section describes the process of collating and analysing food item prices off statistical releases from Stats SA and the PMBEJD Group. Presented in the results and discussion section are the monitored food item and food basket prices contrasted against the food prices in previous years to narrow down and determine the effect of the COVID-19 pandemic and lockdowns on the consumer from an economic perspective.

This research was reviewed by Stellenbosch University's Ethics Committee and made except from needing formal ethical clearance due to its no risk status.

### 3. Chapter 3: Literature Review

The literature review opens to contextualise nutrition security prior to the COVID-19 pandemic from a national and household level. Information on nutrition and food-based guidelines, food security programs, the importance of dietary diversity and healthy diets are provided. Hunger and poverty conditions and various government grant policies assisting persons who fall vulnerable to these conditions are reviewed. Discussed in the review is the pandemic's initial effects on food access which in turn directly impacted persons purchasing patterns. Other related effects of the pandemic

are reviewed such as income pay cuts, the economy shut down and purchasing power from the context of low-income earners and their ability to provide food security for themselves and their households.

### 3.1 Food and nutrition status of South Africans prior to lockdown

Food and nutrition insecurity has been pervasive in South Africa over the past two decades. In 2017 approximately 6.8 million South Africans experienced an extent of food insecurity; hunger (Statistics South Africa, 2019). Women, children, and elderly people are particularly vulnerable to food insecurity. The South Africa Demographic and Health Survey (National Department of Health, 2016; Statistics South Africa, 2017e) suggests that about 18% of adults either experienced or were at risk of hunger in 2016; the rates were 15% in urban areas and 27% in non-urban areas, and 33% and 3% in the lower and higher wealth quintiles, respectively. For children, the figures were 20% at a national level, 17% urban and 25% non-urban, and 28% and 6% for the higher wealth quintiles, respectively.

A core dimension of food security is malnutrition which has been recognized by the government as various policies have been implemented. Nutritional deficiencies were recognized by specific food-based dietary guidelines (FBDGs) that were identified in 1992 at the International Conference on Nutrition attended by 159 countries. World Health Organization (WHO) and FAO of the United Nations (UN) along with the participating governments pledged to eliminate famine, starvations and nutritional deficiencies as well as to reduce the incidence of hunger, undernutrition and nutritional deficiencies before the end of 2000 (World Food Summit, 1996). Sustainable food-based approaches were encouraged along with dietary diversity to fulfil dietary requirements. The FBDGs considered local food preferences, ethnicity, and indigenous and traditional foods specific to countries. The South African food guide displayed seven food groups to be eaten regularly: starchy foods; vegetables and fruits, dry beans, peas, lentils and soya; chicken, fish, meat and eggs; milk, maas, yoghurt; fats and water (Steyn & Ochse, 2013).

A diet that is low in diversity is likely to be deficient in some nutrients and often may lead to insecurity and consequent malnutrition (Steyn & Ochse, 2013; Vorster et al., 2013). Household food security entails an adequate individual dietary intake, which together with health status, influences nutritional status. Diet diversity would ensure that less than 30% of total energy intake would come from fats, shifting away from saturated fats to unsaturated fats and the elimination of industrial trans fats (Schönfeldt et al., 2013a). Reducing the intake of sugar to less than 10% of the contribution to total energy whilst introducing at least 400 g of fruits and vegetables per day would drastically enhance a household's access and availability to nutrition. While the exact make-up of a healthy diet varies depending on individual characteristics, as well as cultural context, locally available foods and dietary customs, the basic principles of what constitutes a healthy diet are the same (Food and Agriculture Organization, 2020a).

Micronutrient deficiencies have a high prevalence in South Africa according to Steyn & Ochse, (2013) whereby deficiencies in iron, vitamin A, iodine, folate and zinc were highlighted to be most severe and frequent for South Africans. Iron deficiency reached up to 28.9% of children under five years of age in 2005, and in children between the ages of one and nine; 19.2% had iodine deficiencies, 45.3% had zinc deficiencies and 63.6% had vitamin A deficiencies (Labadarios et al., 2005). Numerous studies have shown many nutrition deficiencies in adult women, especially amongst pregnant women who have a lack of folate, thiamine, riboflavin, niacin, vitamin B6, vitamin B12, calcium and Vitamin C (Labadarios et al., 2005; Steyn & Ochse, 2013).

The Integrated Nutrition Programme supported by the Department of Health, designed three strategies to curb micronutrient deficiency via ways of supplementation, food fortification and dietary diversity (WCGH, 2013). Vitamin A, thiamine, riboflavin, niacin, pyridoxine, folic acid, iron, and zinc is compulsory to be fortified in bread flour and maize meal. Actions such as breastfeeding, controlling micronutrient deficiencies through supplementation and fortification programmes, controlling infectious disease, food safety and quality and overall household food security were highlighted as actions to form part of the national health-based government actions (WCGH, 2013).

The National Primary School Nutrition Programme is managed by the Department of Education which provides provisions for healthy meals at schools. Learners in poorer primary and secondary schools benefit from one nutritious meal a day which aids to improve their ability to learn and participate at school. Further education on healthy lifestyle choices and home growing of vegetables is also provided to the pupils (National School Nutrition Programme, 2019).

The National Food and Nutrition Security Policy was implemented under the leadership of The Department of Social Development (DSD) and the Department of Agriculture, Forestry and Fisheries (DAFF). The national policy stated and highlighted the need for a food security policy in 2018. The policy highlighted some of the challenges South Africa faced regarding food security, listed in the policy was “the inadequate safety nets and food emergency management systems to provide for all those who are unable to meet their immediate food needs or to mitigate the impact of natural and non-natural disasters on food security”. From reviewing the national policy, it was apparent that one of the first challenges identified was the evident lack of safety nets and insufficient protocols in place to protect South Africa’s food security. The policies and protocols that were subsequently developed were tested during the pandemic as unemployment rates climbed and the economy was halted.

These official statistics reflect the prevalence of food insecurity before lockdown. This situation has compelled a concerted policy response, and food and nutrition security feature prominently on the country’s developmental agenda, including in the constitutional mandate (section 27), the National Development Plan 2030, the National Policy on Food and Nutrition Security (2013), the National Food and Nutrition Security Plan (2017–22), and the Department of Social Development’s Household Food and Nutrition Security Programme, as well as in Sustainable Development Goals 1, 2 and 12. The National School Nutrition Programme, urban agriculture and gardening programmes, food regulations (e.g. the mandatory salt reduction in 2015 and the sugary drinks tax in 2017), and the integration of nutrition into early childhood development programmes are other examples of policy responses.

## 3.2 Hunger and poverty conditions prior to lockdown

The General Household Survey (GHS) has been collecting data on the experience of hunger since 2002 (Statistics South Africa, 2017c), of which 13,5 million South Africans experienced hunger in 2002. The GHS questionnaire diversely covers factors in education, health and social development, housing, households' access to services and facilities, food security, and the involvement in agricultural activity through face to face interviews. Households' adequate access to food is determined as well as experience of hunger on an individual level through the questionnaire. The trend of persons that experienced hunger had declined to 6.8 million people in 2017 (Statistics South Africa, 2017c), which showed the progress towards the target of zero hunger in 2030 set out by the Sustainable Development Goals, however, with the experience of COVID-19 impacts on food accessibility, the progress has potentially been reversed.

Another government initiative that targets food insecurity is social grants, approximately 32% of South Africa's population (18,138,552 beneficiaries) receive social grants, with a total value of R175-billion per annum (Wills et al., 2020). At the end of December 2019, 12,702,612 children (70% of social grant beneficiaries) received child support grants, paid out to registered household heads (Wills et al., 2020). Other than social and child support grants other grants such as Old Age pension fund, disability grants, foster care grants and care dependency grants have been implemented. The grants have been known to empower and increase women's purchasing power as well as their access to food (Demetre Labadarios et al., 2011). From surveys done by the National Income Dynamics Study (NIDS), it was noted that food security had largely increased from 2000 to 2018 mainly due to the expansion of the Child Support Grant (Bridgman & Patel, 2020). According to GHS in 2018, nationally, grants were a source of income for 45% of households (Statistics South Africa, 2018) and 20% reported that it was their main source of income.

In 2017, Stats SA released a report observing the level of poverty and inequality trends in South Africa between 2006 and 2015. National poverty lines were constructed using an approach of the cost of basic needs which linked to welfare and the consumption of goods and services. The report in 2017 indicated that about 21.7% of the population

was living below a food poverty line (Statistics South Africa, 2017c), which has now worsened to 25.2% (Pietermaritzburg Economic Justice & Dignity Group, 2020). This was however a progressive development from the statistic in 2006 whereby almost a third of the population (28.4%) was living below the poverty line. It was noted by Statistics South Africa, (2017d) that there is a difference between rural and urban poverty based on their settlement type and how poverty impacts each location. Poor people living in rural areas were notably poorer than poor people living in urban areas (Statistics South Africa, 2017d), the larger poverty gap and severity measures demonstrated that poor people living in rural areas were not only further away from the poverty line on average, but the poorest of the poor in those areas were significantly worse off than their poor counterparts living in urban areas.

Levels of poverty differed significantly across provinces, with the Eastern Cape (72,9%), Limpopo (72,4%), and KwaZulu-Natal (68,1%) recording the highest levels of poverty in 2015, while the Western Cape (37,1%) and Gauteng (33,3%) had the lowest levels (Statistics South Africa, 2017d). During the years between 2006 and 2017, a significant increase in food poverty was noted in 2009 which coincided with the global economic recession. It has been observed that households in the lowest income categories have historically been significantly more affected by economic shocks compared to households in higher-income categories, further demonstrated by the significant increase in food poverty levels during the economic crisis.

Influencing factors that result in hunger statistics for countries were deliberated by FAO (2020). It is however understood that there are various influences on food security and hunger is a multifaceted issue, as such, a few conditions were highlighted due to their closely related nature. Weak or stagnant national economic conditions contributed to increasing statistics of hunger through various channels, particularly in countries that had taken on large volumes of debt. Commodity dependence through imports and exports played a role as it was noted by the FAO (2020) resulting in several countries increased vulnerability to external economic shocks. Prospects of emerging markets growth and reduction of hunger were dampened by structural imbalances, inequalities and poor distribution of income which further impacted accessibility and affordability of food. It was noted that almost 10% of the World's population live on \$1.90 per day, with specific mention of sub-Saharan Africa and



Southern Asia (FAO, 2020). Countries that experienced fast population growth and poor access to health care and education were earmarked for the higher prevalence of hunger.

Trends of hunger on a global scale were published by the FAO (2020) which predicted the extent of globally undernourished persons to increase up to 841.3 million by 2030, far from the zero hunger target for 2030 for all countries part of the United Nations. Data collected was from the period of 2019 through to March 2020 which was pre-pandemic, leaving to question the implications of COVID-19 on the global hunger statistics.

### 3.3 The effects of the pandemic on food access

Following President Cyril Ramaphosa's announcement of a State of Disaster on 15 March 2020, the government lockdowns restricted access to normal pathways for purchasing food, leaving consumers only a handful of options to secure food for meals from either retailer outlets or food parcel drops. For many, their local food spaza shop, closest market or neighbourhood vendor was closed due to the nature of the restrictions to prevent the spread of COVID-19. Shopping at retailers for some meant further travelling distances, larger food item pack sizes, more expensive food prices and bulk buying, which many did not have the resources for. The Department of Social Development partnered with the Solidarity Fund, civil society organisations and community-based organisations which distributed over 250 000 food parcels across the country in April successively to relieve those experiencing hunger (South African Government, 2020). Non-government organisations and a range of informal safety nets, falling under Community Action Networks (CANs), furthermore distributed approximately one million food parcels to five million beneficiaries amongst six organisations in the period between May and June 2020, estimated to be worth R400 million (Bridgman et al., 2020).

Government food parcels came under some scrutiny when the nutritional value was calculated by researchers and analysts, revealing a lack of dietary diversity and without key inclusions of fruit and vegetables (Vermeulen et al., 2020). Sugar and salt



contents were also higher than necessary considering the movement towards low salt and reducing the intake of sugary foods supported by the government. Each food aid parcel that was distributed in Gauteng included starch-rich foods such as maize meal (10 kg) and rice (5 kg), protein-source foods such as soya (1 kg), two tins of baked beans, two tins of fish and peanut butter (880 g), cooking oil (2 L), a packet of tea bags, sugar (2.5 kg), salt (1 kg) and three cleaning items (Vermeulen et al., 2020). Although the food received proved to be a relief for the most vulnerable, a nutritional lens on the items selected could have ensured a better health outcome, especially during the pandemic.

Children from rural communities and impoverished family homes heavily relied on schools and feeding schemes for daily meals, due to lockdowns the schools were closed for months which resulted in families having to feed children, self-isolate with their children and incur incremental costs on transport to the retail outlets. Families that were relying on the feeding school scheme were already cash strapped and were further thrust into poverty. Prior to the COVID-19 pandemic, national dietary surveys estimated that 77% of children younger than six years do not receive a minimally acceptable caloric diet. The number of children living below the poverty line is climbing from 2.5 million due to insufficient money in households to cover the cost of children basic nutritional needs (Statistics South Africa, 2017c; UNICEF-WHO, 2019).

The South African population was estimated at 55 million people in 2015 of which it was projected that 19,7 million of the population were children aged less than 18 years. According to a new report released by Statistics South Africa (2020a), more than 6 out of 10 (62,1%) children aged below seventeen years old are multidimensionally poor. It is noted that the understanding of poverty from a child's perspective is experientially different from adults because they are fully dependant on others to meet their needs. Children are not able to control household finances nor are they empowered to make decisions for their day-to-day lives. With South Africa's burden of malnutrition in infants and young children, the already very fragile system and scarcity of child wellbeing has been exacerbated during the COVID-19 pandemic. Food aid parcels for children were provided via NGOs and community-based organizations relieving many families with access to food, however as the lockdown continues child hunger and poverty will too.

A rapid mobile survey run by government-supported National Income Dynamics Study (NIDS-CRAM) embarked on a 5-stage survey approach to investigate the periodic experience of persons employment, household income, child hunger and access to government grants. Their findings on child hunger from their first wave survey in May 2020 revealed in a strong weighted increase of hunger experienced for children as well as adults (Bridgman et al., 2020), 22% of households reported that at least one adult experienced hunger in a week time period and 15% of respondents reported that a child had gone hungry in the same time frame. In April, the government child support grant of R440 a month contributed a shortage of 25% below the food poverty line of R561 per capita and a further 37% below the cost of R695.74 to feed a child a basic nutritious diet according to Abrahams & Smith from the PMBEJD Group. Additional measures were created whereby child grant beneficiaries received an extra R300 in May and R500 per month for July to October (South African Government, 2020). The R500 however was not solely for child support but also for mothers and primary caregivers to secure food for both themselves and their children. The decision by the government to not support mothers and children adequately during the pandemic was met with largely negative feedback amongst millions appealing for support in their struggle to desperately feed children and themselves.

Food access can be measured both in terms of the hunger experienced by individuals within a household or of the household's dietary diversity. The exceptional case of the hard lockdown and the experience of hunger by millions from both adults and children is a manifestation of poor access to nutrition. By assessing the foods that are most commonly bought by households one can understand what access and dietary diversity households are experiencing.

### 3.4 Purchasing patterns during lockdowns

Following President Cyril Ramaphosa's announcement of a State of Disaster on 15 March 2020, the retail market saw consumers purchasing bulk quantities of many essential food and hygiene products. Panic buying was the reason for the spike in demand which left store shelves bare and out of stock of many essential food products. There were widespread media reports and complaints concerning price gouging by

retailers on essential food and hygiene products which resulted in the Customer Protection and National Disaster Management Regulations and Directions being issued on 19 March by Minister Patel. These rules aimed to explicitly empower the Competition Commission and National Consumer Commission (NCC) to intervene in circumstances where prices had increased materially without any cost justifications for the increase.

Consumers reported feeling taken advantage of during a crisis and having had paid too much for essential products. If the increase of a product or service did not correspond to or be equivalent to the increase in the cost of providing the product/service or if the net margin or mark-up of that product/service was above the average margin or mark up for the period 1 December 2019 - 29 February 2020 the Competition Commission regarded the company to have engaged in price gouging. The terms to which the Competition Commission prosecuted companies for price gouging was by disgorging the excess profits made from the overpriced sales as well as charging an administrative penalty of up to 10% of the company's annual turnover.

Of the 1600 complaints received under the regulations by the end of June, 19% of the complaints were for basic food products (307 complaints), personal hygiene items such as face masks & hand sanitises received 320 combined complaints (Competition Commission, 2020). With this evidence, it is fair to conclude that consumers felt the brunt of a sharp price increase as 1 out of every 5 complaints were food price related. As consumers were four months into the lockdown by the end of June, whereby unemployment rates were climbing, households had further less income allocated towards food products. Societal pressures were encouraging bulk buying due to the restricted availability of certain food items, which would increase the average basket value considerably. Pricing of food items required examination to fully understand the effects of the COVID-19 pandemic on the food market and the price spike that consumers underwent.

The COVID-19 pandemic disrupted regional and global trade which slowed the demand for Africa's agricultural export products, which is a large portion of the continent's economic income. Agriculture was declared an essential service during the pandemic with the decline in demand and production from the economically developed

countries the drop in export earnings caused trade shocks. It is noted by McKinsey & Company that approximately 80% of Africa's agricultural exports supply four main regions; Western Europe, South and East Asia, Middle East and North America, which were all severely affected by the COVID-19 pandemic (Gillian P et al., 2020). Temporary bans were put in place for exporting during the pandemic, such as rice exports from Vietnam (Gillian P et al., 2020). The result of the bans caused price spikes for importing countries which was particularly problematic for retailers that solely relied on imported rice, by which the cost increases were shared with the end consumer. Airfreight and sea freight costs increased as fewer volumes were required for export, furthermore, storage and handling costs at exit and entry points at the ports also increased in cost as a result of slower handling times. In terms of agricultural production, higher-cost logistics and devalued currencies impeded farmers ability to purchase inputs. Safeguarding against future potential shocks and ensuring that agricultural production is sustained is important for the continuity of the agricultural value chain and resilience of the food system.

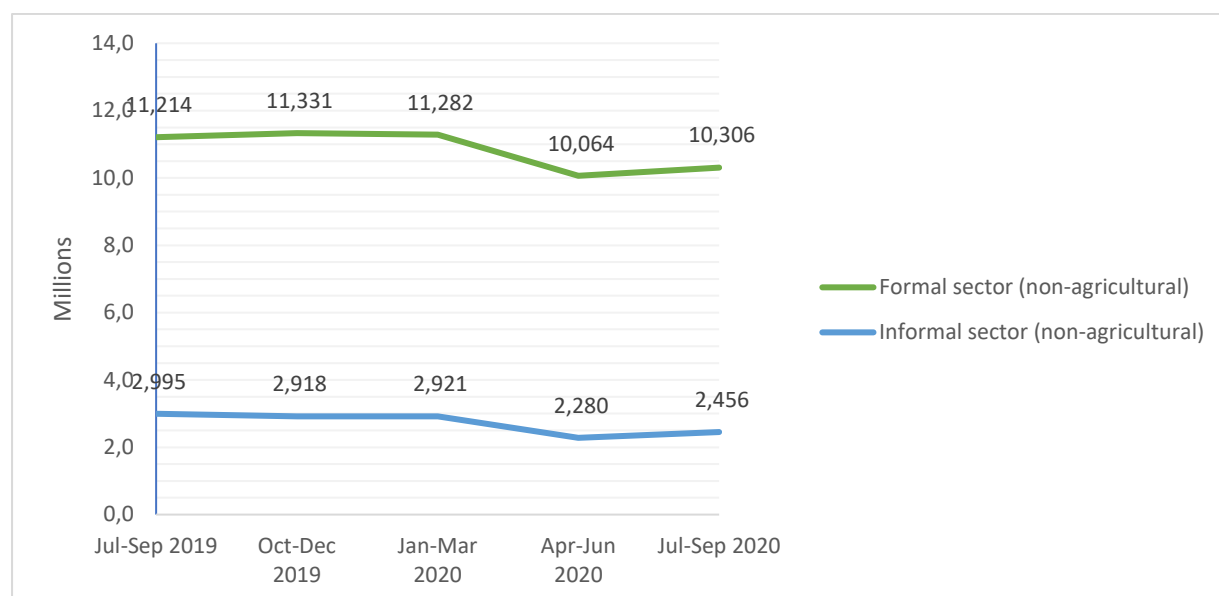
### 3.5 Unemployment rate changes during COVID-19 pandemic

During the months of lockdown, it was evident that there were conflicting articles about the true unemployment rate due to the difficulty of capturing data during Q1 & Q2 of 2020. It was found that the expanded definition for the unemployment rate showed a higher percentage of people who were available for work but not actively searching for work, brought on by the limitations of the pandemic (Statistics South Africa, 2020h).

It was seen that in the third quarter of 2020 the expanded definition of unemployment increased by 1.1% to reach 43.1%. The potential large upsurge of people who were locked in at home in the previous lockdown stage were able to start actively searching for jobs, swinging the percentage of unemployed persons in South Africa to 30.8%.

The employment rate of South Africa in 2020 has seen negative growth compared to the previous year seen in Figure 1 below. Total employment decreased by 648 000 (-

6,4%) between March and June of 2020 (Statistics South Africa, 2020d). Comparing year-on-year statistics for employment shows a deficit of 671 000 persons employed between June 2019 to June 2020, which is a reduction of -6,6%.



**Figure 1** Employment trends July 2019 – September 2020 in the formal and informal sectors, source (Statistics South Africa, 2020f)

A high reduction in active employment was evaluated during the intensive lockdown months by Jain *et al.*, (2020), which revealed a movement of up to 40% reduction in active employment, this statistic was gathered using a categorizing method whereby employment groups were broken into “not employed”, the “temporarily laid-off”, those on “paid leave”, and the “actively employed” to distinguish the true movement from actively employed to unemployed groups between February (pre-lockdown) to April (in lockdown). The high percentage increase for loss of employment highlighted the fragility of the economy and businesses safety nets to retain employees.

From Figure 1 it can be seen how employment numbers drastically dropped due to the shock of the pandemic; 1.4 million jobs were lost between the formal and informal sectors, not including the agricultural industry. Following on from April and June months there was a slight recovery as lockdown levels eased off and job seekers became active. Compared to a year ago in Q3, total employment decreased by 1,7

million resulting in the highest unemployment rate recorded since 2008; 30.8% (Statistics South Africa, 2020g).

The rate of unemployment increases progressively with decreased education levels as the education system does not produce enough skillsets and trained individuals for the labour market. The double-edged sword is that schools were closed down during various lockdown levels affecting schooling syllabus, delaying graduations, and matriculants examinations.

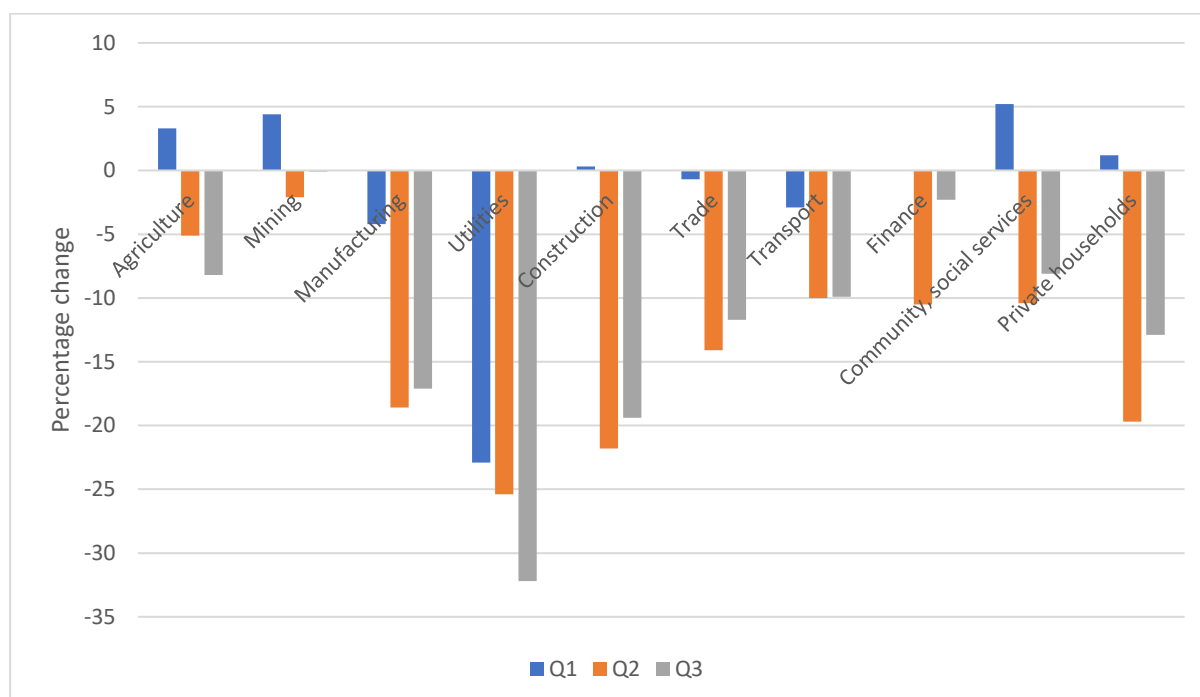
### 3.6 The effects of the pandemic on the labour market

Due to the shock on the economy from the COVID-19 pandemic, businesses cut costs which resulted in many employees receiving pay cuts. The loss of income for many was crippling for household security and plunged families into debt, furthermore, it was estimated by Jain et al., (2020) that between 20% and 33% of job-losers, approximately 1.7 million individuals, had fallen into poverty as a result of COVID-19-related job loss, subject to the poverty line used. To reiterate the dependency of household food security on income; Stats SA indicated in 2018 that many households were not able to buy food mainly due to limited income-generating opportunities (Ngema et al., 2018).

Job loss during the lockdown was found to be a major contributor towards households running out of money to buy food (Bridgman et al., 2020). The government recognized this crisis in household food security and had responded by additional top-up contributions towards existing grants and the two new instrumental relief systems mentioned previously as the COVID-19 Social Relief of Distress Grant and Temporary Employee/Employer Relief Scheme (South African Government, 2020).

Stats SA has released two statistical publications on the employment and labour force, the Quarterly Labour Force Survey (QLFS) and Quarterly Employment Survey (QES). The QLFS was designed to measure the dynamics of the South African labour market to determine the variety of indicators such as employment, unemployment, and

inactivity (Statistics South Africa, 2020g). The QLFS covered total employment in all industries and sectors. Employment data from July 2019 to September 2020 were used in this study across the formal and informal sectors to highlight the decline of employment as a result of the COVID-19 pandemic and the knock-on effect of the different waves of lockdowns.



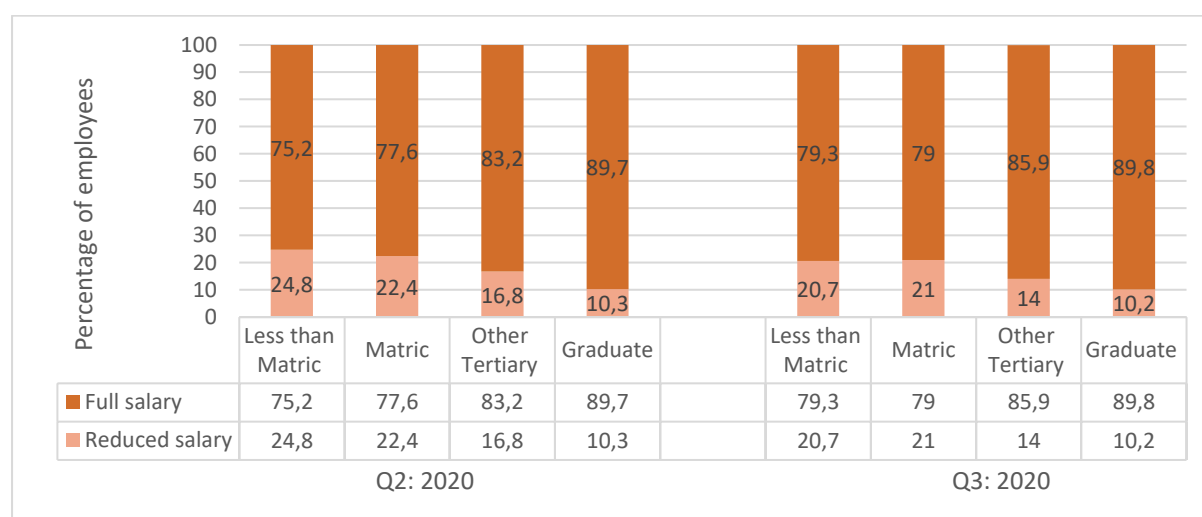
**Figure 2** The change of employment across the financial quarters compared year-on-year; Q1, Q2, Q3, per industry, source QLFS 2020.

From the QLFS report, it was observed that all industries reduced their levels of employment in Q2, some particularly more than others. Data was collected from the first three quarterly QLFS statistical releases for 2020 presented in Figure 2. Quarter one statistics were prior to the COVID-19 pandemic – however, they were included in the study as a benchmark to demonstrate the trajectory of the employment growth trend and how drastic the impact of lockdowns and the economy shut down was for each industry.

The common trend across all industries was that employment largely was overturned and all industries impacted for the worse. The industries most affected by the economic shutdown which lead to a net decrease of 1,7 million in total employment in

Q3 was largely due to losses in the number of people employed in the trade industry (400 000 persons), manufacturing (300 000 persons), community and social services (298 000 persons), construction (259 000 persons) and private household (165 000 persons) (Statistics South Africa, 2020d). From Q2 to Q3 most industries showed a progressive increase in employment seen in Figure 2 below, other than the industries agriculture and utilities, whilst transport remained flat.

It was noted from the QLFS report that individuals who had a higher level of education were likely to maintain a full salary during the stages of lockdown in May 2020 (Statistics South Africa, 2020g). People who had less than matric as their highest level of education were more vulnerable as 24,8% of the survey participants with less than matric experienced a salary reduction seen in Figure 3 (Statistics South Africa, 2020h).



**Figure 3** Percentage of employees who received full and reduced salaries categorized by their level of education, across Q2 – Q3 for 2020, source Stats SA (2020d)

Further data on the breakdown of each income bracket that contributed to the drop in employment would reveal which income bracket was impacted the most.

From this evidence in Figure 2 and 3, it is apparent that all industries were impacted and experienced a reduced employment force, however the most vulnerable to pay cuts and more likely to receive pay cuts were the participants with less than matric qualifications, further revealing and worsening the income inequalities experienced in the country's economy. Vulnerable populations and informal workers in low income earning employment within industries such as private household employment,



manufacturing, and construction resulted in a loss of income, with most likely reduced ability to afford healthcare and a healthy diet.

With the review in context, it is understood that the lockdown changed people's purchasing patterns and consumers faced a spike in food prices. It is also understood that the scene of South Africa's food security was weak prior to the COVID-19 pandemic – with a high prevalence of nutritional deficiencies, stunting, low birth weights, and malnutrition cases, which were exacerbated due to lockdowns. With 45% of citizens depending on grants for income and exposed to retrenchments and pay cuts, a large portion of South Africans were cash strapped and vulnerable to poverty before the COVID-19 pandemic. Due to the reliance on money to gain accessibility to nutrition, it is important to understand what a nutritious basket of goods costs and if the deemed core basket of items is in fact affordable to a low-income earner.

## 4. Chapter 4: Methodology and Materials

The chosen method for data analysis was to review statistic releases of pricing data by Stats SA. Prices for selected food items are to be captured and examined over the period of March to September 2020. A core foods basket is to be derived from the PMBEJD Group, pricing gathered from Stats SA can be used to calculate the cost of the pre-determined core foods basket. Prices of general household costs can be tabulated and updated with the recent calculated food basket price to determine the amount of income required to achieve food security.

The PMBEJD released a national household affordability index in September 2020 which was comprised of household food items pricing data collected from Johannesburg, Durban, Cape Town, Springbok and Pietermaritzburg. The items which were placed into the household basket group were selected by women living on low-income salaries from the sample groups Johannesburg (Soweto, Alexandra, Tembisa, Hillbrow), Cape Town (Gugulethu, Philippi, Khayelitsha, Delft, Dunoon), Durban (KwaMashu, Umlazi, Isipingo, Durban CBD, Mtubatuba), Springbok and Pietermaritzburg. The data collection method and sample group of PMBEJD journal

allow one to compare and contrast with Stats SA in an equivalent and transparent way due to the inclusive and broad collection of data throughout the cities mentioned above. September 2020 was the first release of the PMBEJD national household affordability index, this report was used in this study to reference a typical household food basket, typical household costs and nutritional index due to the reputable evidence-based research and local representative information.

Stats SA collects prices of goods and services consumed by South Africans which are used to calculate an inflation rate for the whole country commonly known as the Consumer Price Index (CPI). A basket of goods from a CPI perspective is selected based on two criteria, total spent on the item and number of households purchasing the item (Statistics South Africa, 2013). It is noted that there are CPI baskets for each province, urban, and rural areas specifically. Due to the different preferences and rate of usage of goods one blanket approach to determine a household experience can thus not be used. Stats SA and PMBEJD journal are aligned on how each province had different food preferences and priorities for their food basket. The National Agricultural Marketing Council (NAMC) monitors food prices at a retail level and releases regular authoritative reports, however, their basket is focused on only the urban market and consists of 28 items.

Stats SA collects pricing data which represents broadly the entire country, much like the CPI representative basket of goods. The CPI is made of 412 products of which food and non-alcoholic beverages are one of the sub-categories, of which the product selection was created by selecting products that have contributed to at least 0.1% of the total household expenditure (Statistics South Africa, 2017a). Stats SA has traced food prices of 35 items over the past 10 years which are readily available online (Statistics South Africa, 2020b), these items were selected for price monitoring due to their availability in retail, pricing availability and small variation on quality and product range. A limitation is noted on the calculation of price indices for smaller geographical areas as the collection would be data intensive. True rural price indices are not published by Statistics South Africa, with the rural CPI being based on prices surveyed in the smaller urban centres. As a result, it is not possible to estimate separate poverty lines for different smaller geographical and rural areas.

Prior to September 2020, released household affordability index reports by the PMBEJD journal focused on a sample group only from the Pietermaritzburg area (The Pietermaritzburg Economic Justice & Dignity Group, 2020a). As of September, the sample group expanded to a national collection method and broader sampler group mentioned above, which was deemed representable for the country and used as a guide for a representative core foods basket.

PMBEJD Group had selected 43 food items to represent the household food basket, which is designed for a household of 7 people, however, there is a more intensive list which they have classified as core food items which is comprised of 15 food items. The core items were selected based on typical core foods and volumes of these foods that women living on low incomes were purchasing first (Pietermaritzburg Economic Justice & Dignity Group, 2020). Their approach was to measure the pricing of a basket at the stores used by members of the community in the pack sizes typically purchased, demonstrating a true experience for households living on low incomes. Core foods were noted to be bought first to ensure that families would be able to get cooked meals and not go hungry. PMBEJD focuses on low-income earners to give a clearer picture of realistic purchasing patterns of expenditure on food and the inadequacies of low wages.

It was chosen to use Stats SA data to reveal the price increases of core food items over the month's March to September. The core food items, stipulated by the PMBEJD Group, are to be grouped into a core foods basket to demonstrate the total cost of the food basket as a whole.

Using the list of food items monitored by Stats SA in Table 1, items were cross-referenced with the list of 15 core items highlighted by PMBEJD journal seen in Table 2, which were deemed essential food items.

**Table 1:** The food items monitored by Stats SA since 2000

<b>Bread and cereals</b>	<b>Meat</b>
Rice	Beef Rump Steak
White Bread	Beef Brisket
Brown Bread	Beef Chuck

Bread rolls	Beef T-Bone
Rusks	Beef Mince
Flour Cake	Chicken Whole - Fresh
Flour Bread	Chicken portions - Fresh
Super Maize	Chicken portions (Individually quick frozen)
Special Maize	Chicken portions - Frozen Non IQF
Ready-mix flour	
Spaghetti	
Macaroni	
Pasta (excluding spaghetti, macaroni)	
Instant noodles (for example 2 min noodles)	

**Oils and fats**

Peanut Butter  
Sunflower Oil (including Canola oil)

**Vegetables**

Potatoes  
Sweet Potatoes

**Milk, eggs and cheese**

Milk Full cream - Fresh  
Milk Full cream - Long life  
Milk Low Fat - Fresh  
Milk Low Fat - Long life  
Cream - fresh  
Maize based food drink (for example mageu )  
Eggs  
Margarine Spread (in a tub)  
Margarine Brick

**Fish**

Fish Hake - Frozen  
Fish Tuna Tinned  
Fish (excluding Tuna) Tinned

**Sugar, sweets, and desserts**

White Sugar

**Table 2:** List of food items highlighted by PMJBD considered as core items

---

Maize meal (35kg)
Rice (10kg)
Cake Flour (10kg)
White sugar (10kg)
Sugar beans (5kg)
Samp (5kg)
Cooking oil (5L)
Salt (1kg)
Potatoes (10kg)
Onions (10kg)
Frozen chicken pieces (10kg )
Curry powder (200g)
Stock cubes (24 cubes x2)
Soup (400g x2 )
Tea (250g )
White bread (25 loaves)
Brown bread (25 loaves)

---

After cross-referencing both tables it was seen that there was an overlap of 9 items; super maize (2.5 kg), rice (2 kg), cake flour (2.5 kg), white sugar (2.5 kg), sunflower oil (750 ml), potatoes (fresh per kg), IQF chicken portions (2 kg), a loaf of white bread (700 g) and a loaf of brown bread (700 g). These nominal prices were captured in a graph from 2017 to September 2020 to show the trend of pricing trends over the 3 years which included the period during the lockdown.

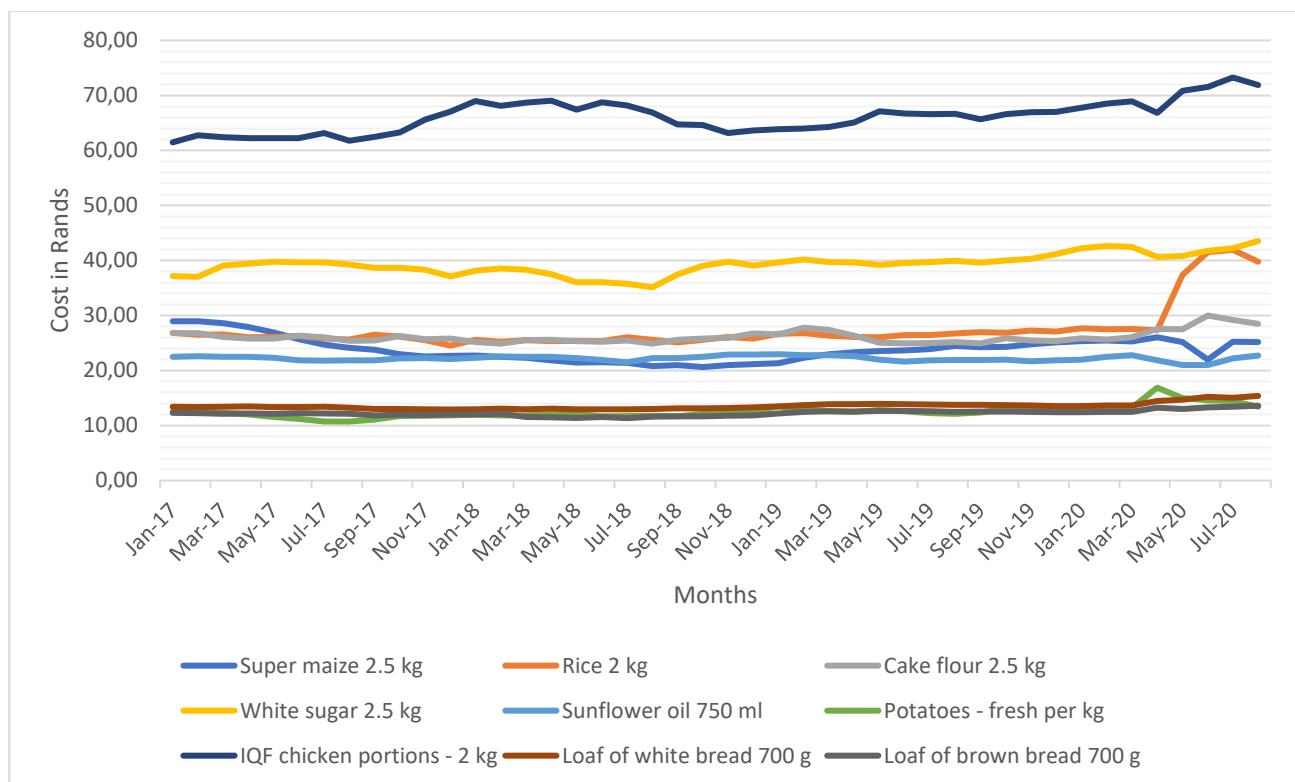
Using the pricing data for the above-mentioned 9 items, it was exhibited in a graph to observe the trends of important core food items, to further understand the pricing patterns of the food items, with specific attention to the months of early lockdown. The basket of core items will be contrasted to the same fiscal quarter in the previous year, using the collated nominal pricing, to interrogate the rise in the cost of core foods and the rate of escalation.

## 5. Chapter 5: Results and Discussion

Chapter 5 reveals the results of the collated pricing data and pricing trendline associated with the item. It also reveals the total core foods basket cost over the months of March to September. Further information is provided on typical household expenses to highlight the income contribution required for food expenses, in order to secure food and nutrition for a household of 4 persons. The link of health and food security to income is discussed in light of subsequent findings to reveal the role of income in securing food and nutrition for a household.

### 5.1 The climbing cost of food and nutrition

The 9 selected core food items and the cost of a food basket were constructed into graphs to demonstrate the visual trendlines. Figure 4 revealed a moderately flat trendline up until April 2020 where a slight spike and activity were realized. The selected food items were tracked from January 2017 to fairly understand the progression of the food items in the prior 3 years leading up to March 2020.



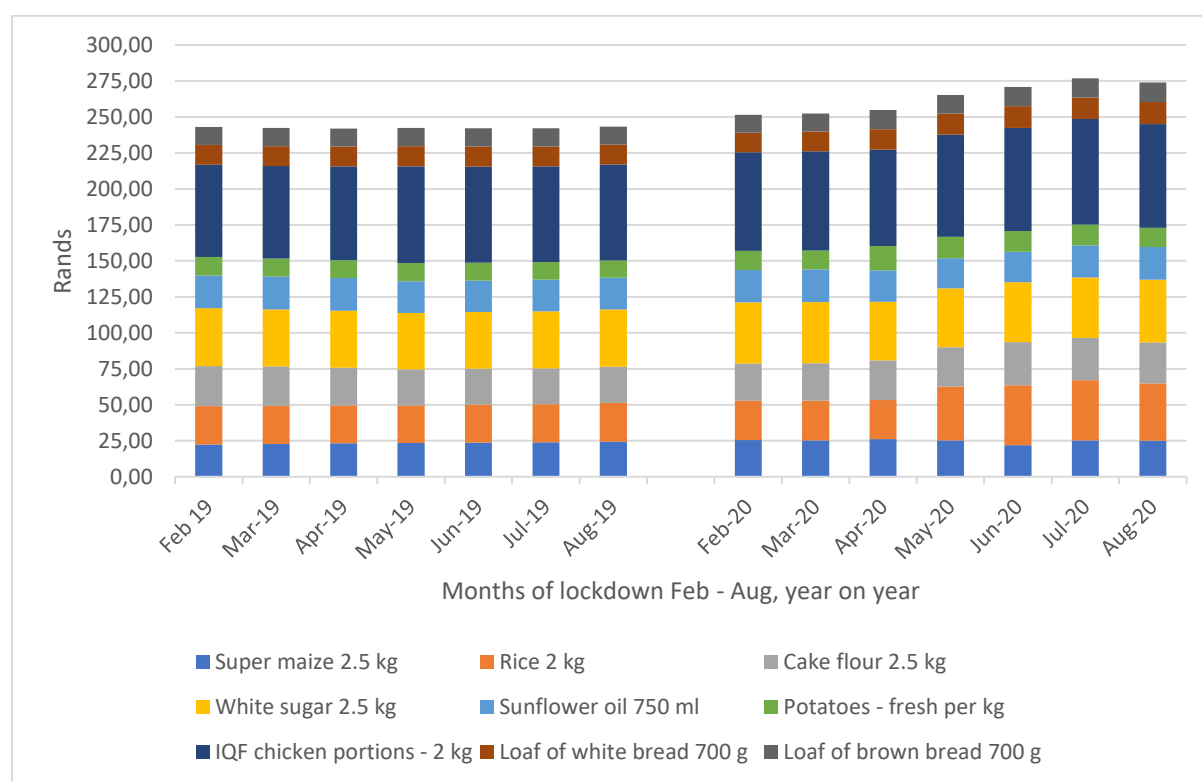
**Figure 4** Tracking of selected food items pricing since January 2017, sourced data from Stats SA (2020)

In Figure 4 it is seen that rice, IQF chicken, potatoes and flour saw the most price fluctuations on prices throughout March 2020 to September 2020. Year-on-year comparisons in August 2020 saw a 2 kg bag of rice 49% more expensive than it was in August 2019, an increase of R13.03. As mentioned previously, global temporary trade bans and rising costs of importing rice was the main driving factor for the rise in the price of rice. Cake flour, white bread, potatoes saw a year-on-year price increase of 13%, 12% and 11% respectively. IQF chicken portions (2 kg) saw an increase of 8% year-on-year.

Contrasting prices from February 2020 to August 2020 to it was seen that rice (2 kg's) increased by 46%, white bread by 13%, cake flour by 11%, brown bread by 9%, chicken portions by 5% and sugar, maize, oil and potatoes by an average of 2%. It is observed that prices are incrementally rising during the months of lockdown.

Comparing an average household food basket for 7 people created by the PMBEJD group, which included on top of the staples; maas, eggs, protein options, vegetables, bread and some sandwich spreads, it was observed that a cost increase of 1% was

seen month on month in August 2020 and a year-on-year increase in cost was 13.2% (The Pietermaritzburg Economic Justice & Dignity Group, 2020a).



**Figure 5** Cost of a typical basket of core foods over the months February – August 2020, sourced data from Statistics South Africa (2020a)

Comparing the basket price from August against February, pre-COVID-19, it was observed the increase of the total basket was R22.44 (8% increase) over a 7-month period. Although it may not seem like a large increase, it would be felt by persons who are unemployed and living off grants or a low income. For the basket of core items, namely 9 food items based on the cross-referencing selection on Stats SA & PMBEJD journal price tracking, an 8% increase would result in restricting consumers from buying products that would increase diet diversity or improve nutritional intake as food brands were commonly switched out by women in the sample group, aiming to seek the cheapest prices and special deals. It is noted from the PMBEJD journal that core staple foods were bought first namely; maize meal, rice, cake flour, white sugar, sugar beans, samp and cooking oil. Items that would be bought less due to affordability restrictions would therefore fall from the meat and vegetable category where most of the protein and micronutrients would be found, namely potatoes, chicken pieces and onions (The Pietermaritzburg Economic Justice & Dignity Group, 2020b).

The results from monitoring a food basket seen in Figure 5 revealed a clear increase in total basket cost, using only essential food items that had pricing availability in statistical releases by Stats SA. The food basket was specifically chosen to include essential food items that the majority of households would purchase, as stipulated in Table 2. The basket in August was R30.74 more expensive than the basket in August 2019, which revealed an increase of 13%. The bar graph trendline revealed a moderately flat line in 2019 across the months February to August however a concave trendline represented the bar graph for the months February to August 2020.

It was revealed that between September and October annual CPI for food and non-alcoholic beverages had the biggest annual rise for this category since September 2017 which was the post-drought recovery period for South Africa (Statistics South Africa, 2020c).

On a global scale, it is noted by FAO that healthy diets are unaffordable to many people, especially the poor, which highlights the larger global problem of food affordability and food security. The most conservative estimate showed that they are unaffordable for more than 3 billion people in the world. The cost of a healthy diet estimated by FAO was found to exceed the international poverty line (established at USD 1.90 purchasing power parity (PPP) per person per day), concluding it to be unaffordable for the poor (Food and Agriculture Organization, 2020b).

Healthy diets are estimated to be, on average, five times more expensive than diets that meet only dietary energy needs through a starchy staple (Food and Agriculture Organization, 2020b). The Competition Commission argues that although the media were reporting claims of food price increases to be as high as 30% during the initial months of lockdown, these figures were only relating to certain products within the basket and not to the basket in totality. The PMBEJD data showed an 8.1% increase in the cost of the basket from 2 March 2020 (R3,221) to 3 June 2020 (R3,486.23). Whilst that might not reflect a 30% increase it does reflect a large portion of income to be reallocated to afford the same food basket before lockdown. Particularly the lower-income bracket would feel the brunt of the increase in food prices.



All households should strive for a healthy diet, furthermore, education on what entails a healthy meal is imperative for perception on what a food basket should contain to achieve access to nutrition, income permitting. Dietary diversity is often disregarded as more pressing issues such as hunger, stunting, malnutrition, and poverty are experienced for large portions of the population, especially during a global pandemic. A healthy meal ensures that a person's needs for macronutrients (proteins, fats, and carbohydrates including dietary fibre) and essential micronutrients (vitamins and minerals) are met, specific to their gender, age, physical activity level, and physiological state. Micro-nutrients from dairy, eggs, fruits, and vegetables are recognized to contain essential micronutrients for a functioning immune system. Vitamin C is sourced from fresh produce which aids in fighting infections and protecting cells from oxidative stress (Vermeulen et al., 2020).

Household food security itself is influenced by household variety. If the variety of the household diet is weak, the food security will therefore be compromised in return. An individual requires a range of nutrients for optimal health, as not all nutrients can be derived from one food, a variety of foods needs to be consumed to ensure the provision of nutrients (Vorster et al., 2013).

## 5.2 Allocations of household income to secure food

PMBEJD group developed a basic nutritional food index for families living on low incomes based on a selection of products that would meet basic nutrition. For a family of four members based on the core foods seen in Table 2, including most zero-rated foods and some VATable foods the cost amounted to R2 730,66 (Pietermaritzburg Economic Justice & Dignity, 2020). As seen in Table 3 there is an extensive expense list of likely expenses that a family of 4 members would incur living off low-income earnings put together by a representative group from households living in Pietermaritzburg.

**Table 3:** List of several typical household expenses for a family of four members as of September 2020, sourced data from PMBEJD (2020)

	Measure	Cost	% Contribution
Food	Family	R2 730.66	33%
Transport to work (2 taxi, return)	1 Adult	R1 200.00	15%
School fees (reasonable quality primary school)	1 Child	R1 000.00	12%
Domestic and personal hygiene products	Family	R691.13	8%
Prepaid electricity (350kWh)	Family	R647.50	8%
Transport to school	1 Child	R600.00	7%
Debt servicing on food (minimum)	Family	R300.00	4%
Airtime	Family	R300.00	4%
Burial insurance	Family	R275.00	3%
'Savings' into stokvels/mholiswano, stamps etc.	Family	R200.00	2%
Transport to shops and to access public health services	Family	R165.00	2%
Water (flat rate, unmetered households)	Family	R143.42	2%
Total for typical expenses		R8 252.71	

Percentage contribution added by author

A large portion of income is allocated towards food seen in the representative Table 3, which could indicate that there is an opportunity for households to receive a variety of foods and sufficient food and nutrition. However it is commonly seen and noted by the PMBEJD group that the first cut back households make when on a strict budget, is the budget cut on food, whilst debt is set off to cover expense shortfalls. The percentage of allocation is also relative to the total amount of income received.

Different scenarios for household incomes for general workers, farmworkers and domestic workers on the National Minimum Wage were tabulated in a study released in August 2020 by the PMBEDJ group. Shortfalls were demonstrated to reveal a deficit of 41.5% to secure food, should one person, working at the minimum wage rate of R20.76 an hour, be required to support a household of four members (The Pietermaritzburg Economic Justice & Dignity Group, 2020a). Two core expenses were identified; transport and electricity, which get deducted from the household income in the order of priority before food costs. Costs for transport to get to work and back home or to areas offering food accessibility consumed a large portion of wages, and electricity was mentioned to be the second-largest cost component to these households.

From the table above it is noted that households living on low incomes are reasonably expected to cover R8 252.71 approximately seen in Table 3. Low-income earners,

earning the National Minimum Wage in August 2020 at R20.76 an hour, working for an average of 21 days in a month would earn a salary of R3 487.68 a month. With the possibility of a grant, the total income from salaries would not cover the household expense costs of R8 252.71, regardless if two household members were working. Deducting total transport and electricity costs from the income of one house member working leaves a remaining R875.18 for food purchases. It is fair to conclude that living expenses are well beyond the affordability capacity of most households living on low incomes which furthermore reveals basic to restricted access to food.

The food poverty line as of August 2020, is at R585 per person per month. This refers to the amount of money that an individual will need to afford the minimum required daily energy intake. This is also commonly referred to as the “extreme” poverty line (Statistics South Africa, 2020e); it is noted that while most of the poor around the world can afford an energy sufficient diet, they cannot afford either a nutrient adequate or a healthy diet. Whilst the core foods item list in Table 2 seems carbohydrate heavy; maize, rice, loaves of bread, flour, and potatoes, the objective of the food is to reach an energy-sufficient diet first and foremost so that individuals cannot go hungry. Food preferences and dietary needs are secondary to households who do not have the disposable income to consider preferences when securing food for cooking meals.

### 5.3 Linking income to health and food security

A COVID-19 Social relief of Distress grant was approved for R350 a month between the months of May to October (South African Government, 2020). Unemployed persons were paid out a R350 special COVID-10 SRD grant for six months if they did not receive any other form of a social grant or UIF payment (South African Government, 2020). Since the lockdown started on 27 March, as many as 42% of adults in grant receiving households lost their main source of household income (Bridgman *et al.*, 2020). This figure was 36% for adults in non-grant receiving households.

From the NIDS-CRAM survey, it was revealed that as many as 54% of adults in households categorized in the poorest income quintile - determined by per capita

household income in 2017, previously not receiving grants, reported that their household lost its main source of income, compared to 26% in the wealthiest quintile (Wills et al., 2020). From this perspective, there is evidence that the poorest non-grant receiving households have been the most severely affected by the pandemic.

A study conducted by NIDS-CRAM in May/June 2020 collected information on the relationship and link between health and income. It was found that during the COVID-19 pandemic income-related health disparity and inequality were remarkably high. Hunger was a strong contributor to health inequalities which in turn further widened the gap between the rich and the poor. Another factor highlighted to widen the health inequalities was income inequality, which due to the COVID-19 pandemic it disproportionately had already economically compromised individuals losing their jobs, worsening income inequalities and health outcomes.

Before the COVID-19 pandemic, food security was a prevalent issue in South Africa. Media statements and recommendations date back to the previous decade due to the high levels of poverty that existed and still exist in the country. Factors such as insufficient food availability at the national level resulted in food insecurity at a household level, insufficient household food production or lack of economic power to purchase food, and inequitable intra-household access to food were categorized in a conceptual framework by Smith et al., (2000) as factors strongly correlated to food insecurity for South Africa in 2011 (Abdu-Raheem & Worth, 2011). Increases in fuel prices and increases in electricity have burdened the affordability of food for households over the past decade, notably, the 100% electricity price increase endured between 2008 and 2011 (Abdu-Raheem & Worth, 2011). Regular increases in the oil price result in higher food prices for food items, fertilizer, and transport costs which continues to drive further detachment for households to achieve nutrition.

Recommendations would be for the government to provide more support to the agricultural sector and particularly at the household level, rural and urban. Income levels are not sufficient for affording household monthly food baskets, whilst maintaining transport and electricity costs. Solutions for income levels, regulation of food prices, electricity and fuel prices should have been assessed with policies before the global pandemic.

Strategic food reserves, value-chain financing, crop insurance, new age technology against climate and pest threats, further social grant financing, food crisis response units, home-school feeding schemes, and open-air markets are a few areas for recommendations for development to improve the overall health of the food system through the pandemic and for the future.

## 6. Chapter 6: Conclusion

Various studies have established that there are synergies between food security, unemployment, poverty, and inequality. This study aimed to underscore that the poor bear a disproportionate burden of food insecurity which has been further exacerbated by the COVID-19 pandemic.

The examined core food prices and food basket revealed a spike in prices over the months of March to September 2020. The impact of the COVID-19 pandemic on food pricing was thus proven. The household food expenses list showed that approximately 33% of household income is required to secure nutrition for the household, emphasizing the importance of income and financial support. The accessibility of food through purchase is ascertained, and the key role of stable food prices is quintessential to afford core food items. The resultant knock-on effect of the COVID-19 pandemic in terms of exacerbating nutrition outcomes was realized as the progress South Africa had made towards food accessibility, food stability, food affordability, and usage had been reversed due to the COVID-19 pandemic.

The food choices facing households are shaped in powerful ways by their immediate food environment and the broader food system. This includes all the elements involved in taking food from the producer to the consumer including food production, processing, packaging, distribution, marketing, and retail. With the resultant effects of the global pandemic on the import and export market, commodities, food chains, small scale farmers access to markets, petrol prices, and electricity prices - all of which have been negatively impacted, petrol and electricity price increases and food chain

blockages have had a ripple effect on the ability for a large portion of South Africans to afford and secure a nutritional diet.

What the COVID-19 pandemic crisis highlights is what the food sovereignty movement has stood for over the past 10 years: the corporate-dominated, industrialized food system does not reach a large proportion of our population nor can a large portion of workers and unemployed afford basic levels of nutrition. Furthermore, inadequate and unstable food supplies and the lack of purchasing power manifest widespread inequalities and enlarge poverty numbers among the majority of households affected by food insecurity. A key characteristic of food and nutrition security in South Africa is that the majority of households' access food via the market where it is more accessible and affordable rather than via production and social transfers. Thus, food prices become a major factor affecting food security.

During the COVID-19 pandemic, the price of staple food had remained stable at national level; however, the cost of core foods was confirmed to have increased by approximately 13% across all regions. The average cost of a nutritious household food basket was R3 783,16 with the cost becoming largely unaffordable each consecutive month. This food basket cost breached the level of the National Minimum Wage, which in September 2020 was R3 487,68 (The Pietermaritzburg Economic Justice & Dignity Group, 2020b), supporting that the cost of food and nutrition is beyond the affordability thresholds of families living on low incomes.

This suggests that the affordability of a nutritious diet or even a core food diet could be compromised in low-income areas and for low-income earners, which is the majority of South Africans who are earning the National Minimum Wage. Fluctuating food prices would increase food inaccessibility because of the limited purchasing power of vulnerable groups which would further lead to mass hunger.

Pre-existing inequalities in food insecurity, health, and income were reinforced by the economic shock and lockdown restrictions. Efforts to achieve the zero hunger, food security target, and nutrition availability target for the sustainable development goals in 2030, albeit with setbacks from the COVID-19 pandemic, will only be reached if

measures to save the livelihoods of the poor are sustained during the crisis and beyond.

## 7. References

- Abdu-Raheem, K. A., & Worth, S. H. (2011). *Household food security in South Africa: evaluating extension's paradigms relative to the current food security and development goals*. South Africa Journal of Agricultural Extension .  
[http://www.scielo.org.za/scielo.php?script=sci\\_arttext&pid=S0301-603X2011000200008](http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0301-603X2011000200008)
- Abrahams, M., & Smith, J. (2020). Food prices, social grants and Covid-19. *Pietermaritzburg Economic Justice & Dignity Journal*, April.
- Bridgman, G., Berg, S. van der, & Patel, L. (2020). Hunger in South Africa during 2020: Results from Wave 2 of NIDS-CRAM. *National Income Dynamics Study, Wave 2*(September).
- Bridgman, G., & Patel, L. (2020). *Hunger in South Africa during 2020: Results from Wave 2 of NIDS-CRAM*.
- Competition Commission. (2020). Essential Food Pricing Report. *Government Notice No. 350 of GG 43116, July*.
- Food and Agriculture Organization. (2020a). Food Security and Nutrition in the World. In *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*.
- Food and Agriculture Organization. (2020b). The State of Food Security and Nutrition in the World 2020. In *The State of Food Security and Nutrition in the World 2020*. FAO, IFAD, UNICEF, WFP and WHO. <https://doi.org/10.4060/ca9692en>
- Gillian P, Kartik J, & Arend van W. (2020). *Safeguarding Africa's food systems through and beyond the crisis*. McKinsey & Company. <https://www.mckinsey.com/featured-insights/middle-east-and-africa/safeguarding-africas-food-systems-through-and-beyond-the-crisis#>
- Jain, R., Budlender, J., Zizzamia, R., & Bassier, I. (2020). The labor market and poverty impacts of Covid-19 in South Africa. In *CSAE Working Paper Series 2020-14* (Vol. 44, Issue July).
- Labadarios, Demetre, Mchiza, Z. J. R., Steyn, N. P., Gericke, G., Maunder, E. M. W., Davids, Y. D., & Parker, W. ah. (2011). Food security in south africa: A review of national surveys. *Bulletin of the World Health Organization*, 89(12), 891–899.  
<https://doi.org/10.2471/BLT.11.089243>
- Labadarios, D, Steyn, N., Maunder, E., MacIntyre, U., Gericke, G., Swart, R., Huskisson, J., Dannhauser, A., Vorster, H., Nesmvuni, A., & Nel, J. (2005). The National Food



- Consumption Survey (NFCS): South Africa, 1999. *Public Health Nutrition*.  
<https://doi.org/10.1079/phn2005816>
- National Department of Health. (2016). South African Demographic and Health Survey. *Statistics South Africa*.
- National School Nutrition Programme. (2019). *DBE's National School Nutrition Programme*.  
Dept of Basic Education.  
<https://www.education.gov.za/Programmes/NationalSchoolNutritionProgramme.aspx>
- Ngema, P. Z., Sibanda, M., & Musemwa, L. (2018). Household food security status and its determinants in Maphumulo local municipality, South Africa. *Sustainability (Switzerland)*, 10(9), 1–23. <https://doi.org/10.3390/su10093307>
- Pietermaritzburg Economic Justice & Dignity. (2020). Research Report: New Household Affordability Index. *Pietermaritzburg Economic Justice & Dignity Group, September*, 1–5.
- Schönfeldt, H. C., Hall, N., & Bester, M. (2013a). Relevance of food-based dietary guidelines to food and nutrition security: A South African perspective. *Nutrition Bulletin*.  
<https://doi.org/10.1111/nbu.12027>
- Schönfeldt, H. C., Hall, N., & Bester, M. (2013b). Relevance of food-based dietary guidelines to food and nutrition security: A South African perspective. *Nutrition Bulletin*.  
<https://doi.org/10.1111/nbu.12027>
- Smith, L. C., Amani E, & Jensen, H. (2000). The geography and causes of food insecurity in developing countries. In *Agricultural Economics* (Vol. 22).  
[www.elsevier.com/locate/agecon](http://www.elsevier.com/locate/agecon)
- South African Government. (2020). *Social grants - Coronavirus COVID-19 | South African Government*. Social Grants - Coronavirus COVID-19. <https://www.gov.za/covid-19/individuals-and-households/social-grants-coronavirus-covid-19#>
- Statistics South Africa. (2013). *What is the Consumer Price Index?*
- Statistics South Africa. (2017a). Consumer Price Index - The South African CPI Sources and Methods Manual. *Consumer Price Index, March*, 1–97.
- Statistics South Africa. (2017b). Living Conditions of Households in South Africa: An analysis of household expenditure and income data using the LCS 2014/2015. *Statistical Release P0310*.
- Statistics South Africa. (2017c). Living Conditions of Households in South Africa: An analysis of household expenditure and income data using the LCS 2014/2015. *Statistical Release P0310*.
- Statistics South Africa. (2017d). Poverty Trends in South Africa: An examination of absolute poverty between 2006 and 2015. *Statistics South Africa, November*.



- Statistics South Africa. (2017e). South Africa demographic and health survey 2016: Key indicator report. In *Statistics South Africa*.
- Statistics South Africa. (2018). Statistical Release PO318. *General Household Survey 2018*, May, 203.
- Statistics South Africa. (2019). *The Extent of Food Security in South Africa | Statistics South Africa*. <http://www.statssa.gov.za/?p=12135>
- Statistics South Africa. (2020a). *Child Poverty in South Africa: A multiple Overlapping Deprivation Analysis*.
- Statistics South Africa. (2020b). *Food Statistics South Africa*. SAGIS. [https://www.sagis.org.za/food\\_stats\\_sa.html](https://www.sagis.org.za/food_stats_sa.html)
- Statistics South Africa. (2020c). Inflation edges up as food and drink prices bite | Statistics South Africa. *Statistics South Africa*.
- Statistics South Africa. (2020d). Key Findings | Statistics South Africa. *Key Findings: P0277 - Quarterly Employment Statistics (QES), 2nd Quarter 2020*.
- Statistics South Africa. (2020e). National Poverty Lines 2020. *Statistical Release P0310.*, July, 1–10.
- Statistics South Africa. (2020f). Quarterly Employment Statistics. *Statistical Release P0277, December 2020*, 1–39.
- Statistics South Africa. (2020g). Quarterly Labour Force Survey. *Quarterly Labour Force Survey, September*, 1–70.
- Statistics South Africa. (2020h). *SA economy sheds 2,2 million jobs in Q2 but unemployment levels drop*. <http://www.statssa.gov.za/?p=13633>
- Steyn, N., & Ochse, R. (2013). Food-Based Dietary Guidelines for South Africa: “Enjoy a variety of foods”: as a food-based dietary guideline. *South African Journal of Nutrition*.
- The Pietermaritzburg Economic Justice & Dignity Group. (2020a). Household Affordability Index: August 2020. *Pietermaritzburg Economic Justice & Dignity Group, August*.
- The Pietermaritzburg Economic Justice & Dignity Group. (2020b). The Household Affordability Index. In *Pietermaritzburg Economic Justice & Dignity Group* (Issue September). <https://pmbejd.org.za/wp-content/uploads/2019/09/September-2019-Household-Affordability-Index-PMBEJD.pdf>
- UNICEF-WHO. (2019). Low birthweight estimates. *World Health Organization*.
- USAID. (2018). Global Food Security Strategy (GFSS). *Feed the Future, September*, 21. <https://www.usaid.gov/documents/1860/global-food-security-strategy-gfss-uganda-country-plan>
- Vermeulen, H., Muller, C., & Schonfeldt, H. C. (2020). Food aid parcels in South Africa could do with a better nutritional balance. *The Conversation*.

- Vorster, H., Badham, J., & Venter, C. (2013). Food-Based Dietary Guidelines for South Africa: An introduction 1. *South African Journal of Clinical Nutrition*, 26(3), 5–12.
- WCGH. (2013). *Integrated Nutrition Programme | Western Cape Government*.  
<https://www.westerncape.gov.za/service/integrated-nutrition-programme>
- Wills, G., Patel, L., van der Berg, S., & Mpeti, B. (2020). *WAVE 1 National Income Dynamics Study (NIDS) – Coronavirus Rapid Mobile Survey (CRAM): Household resource flows and food poverty during South Africa's lockdown: Short-term policy implications for three channels of social protection*. *NIDS Wave 1*, 46.
- World Food Summit. (1996). World Food Summit 1996, Rome Declaration on World Food Security. In *World Food Security*.
- World Health Organization. (2016). *Children aged <5 years stunted Data by country*. Global Health Observatory Data Repository.  
<https://apps.who.int/gho/data/node.main.CHILDSTUNTED?lang=en>